REMARKS

The Office Action dated July 13, 2004 has been received and reviewed by the applicant. Claims 1-15, 18-25, 27 and 28 are in the application. Claims 19-21 and 28 have been allowed, claims 1-5, 7, 8, 12-15, 18, 22-25 and 27 stand rejected and claims 6 and 9-11 stand objected to.

Claims 1-5, 7, 8, 12-5, 18, 22-25 and 27 stand rejected under 35 USC 102(e) as anticipated by Wade et al (US 6,315,381).

Claim 1 is cancelled

Claims 2, 3, 9, 12-14 and 18 are hereby amended. Reconsideration and allowance of the claims as amended is requested for the following reasons.

The present invention relates to a method for printer cartridge quality control by periodically monitoring key cartridge characteristics, including electrical parameters, droplet and dot/line on medium characteristics, etc. During printer operation, upon detecting cartridge quality change based on the comparison of a second set of characteristics to a first set of characteristics, printing parameters are adjusted for optimal printing quality.

Claim 3 has been rewritten in independent form, but is otherwise unchanged. According to Claim 3, the first and second set of characteristics are resistance values of resisters on the printhead.

Wade et al. teaches a method of calibrating print cartridges during manufacture to determine optimal operating settings (see, Summary of The Invention). The operating settings are the parameters controlled by the printer to control the print cartridge. Therefore, the operating settings are not cartridge characteristics. The first set of characteristics referred to by the Examiner is the calibration information (column 6, lines 37-38). The second set of characteristics referred to by the Examiner is actually the operating settings, including quadrant slope adjustments, DAC settings, and operating voltage (column 7, lines 65-67 and column 8, lines 45-48). Both the calibration information and the operating settings disclosed in Wade et al. are operation parameters. Wade et al. never teaches writing resistance to a memory chip. The resistances discussed in column 6, lines 28-55 of Wade et al. are not intended to be stored in the memory. The parasitic resistances mentioned in column 8, line 55, are not an electrical resistance of the print cartridge because they are "not detectable in the print cartridge alone during manufacturing" (column 8, lines 55-57). The parasitic

resistances are caused by wiring fault, or poor conduction at the print cartridge-printer contacts (column 8, lines 57-59). The parasitic resistance does not get written to the memory chip. It appears that the Examiner may have misunderstood the teachings of Wade et al., resulting in the rejection of Claim 3 based the assumption that Wade et al. disclosed writing electrical resistances into the memory chip 31.

Accordingly, Claim 3, together with Claims 2 and 4, 5, 7, 8, and 12-14, which depend directly or indirectly from Claim 3, define patentable subject matter when compared to Wade et al.

Claim 4, and Claims 5, 7 and 8 which depend from Claim 4, are further patentable over Wade et al. in that the discussion of cartridge resistances and variations in Wade et al. (column 6, lines 36-42) would not lead to storage of the resistance to the memory chip or any intention of such.

Claim 12, which now depends from Claim 3 and is patentable therewith, is further novel over Wade et al. because dot quality, line quality, drop quality or color-to-color alignment are not mentioned in Wade et al. as cartridge characteristics written to the memory chip. In fact, column 1, line 26-28 of Wade et al. talks about "*droplet firing energy* to provide *uniform output*". There is no discussion of dot quality, line quality, drop quality or color-to-color alignment as cartridge characteristics. Uniform output refers to quality of printing on medium. It does not mean dot quality, line quality, drop quality or color-to-color alignment.

The rejection of Claim 15 is respectfully traversed. As discussed herein, Wade et al. teaches a method of calibrating print cartridge at manufacturing to determine optimal operating settings (Summary of The Invention). The "at least one set of jet characteristics" referred to by the Examiner are not cartridge characteristics. The characteristics referred to by the Examiner are the calibration information or the operating settings, including quadrant slope adjustments, DAC settings, and operating voltage. Both the calibration information and the operating settings disclosed in Wade et al. are operation parameters. Wade et al. does not teach writing resistance to a memory chip. The resistances discussed in column 6, lines 28-55 of Wade et al. are not intended to be stored in the memory. The parasitic resistances mentioned in column 8, line 55, are not an electrical resistance of the print cartridge because they are "not

detectable in the print cartridge alone during manufacturing" (column 8, lines 55-57). The parasitic resistances are caused by wiring fault, or poor conduction at the print cartridge-printer contacts (column 8, lines 57-59). The parasitic resistance does not get written to the memory chip.

Claim 18 depends from Claim 15 and is patentable therewith. Claim 18 has been amended to more clearly set forth the subject matter claimed therein.

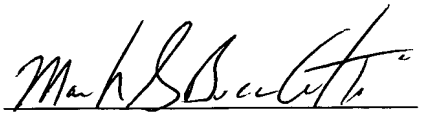
Claim 22, which depends from Claim 15 and is patentable therewith, is further novel over Wade et al. because dot quality, line quality, drop quality or color-to-color alignment are not mentioned in Wade et al. as cartridge characteristics written to the memory chip. In fact, column 1, line 26-28 of Wade et al. talks about "*droplet firing energy* to provide *uniform output*". There is no discussion of dot quality, line quality, drop quality or color-to-color alignment as cartridge characteristics. Uniform output refers to quality of printing on medium. It does not mean dot quality, line quality, drop quality or color-to-color alignment.

Claims 23-25 and 27 are novel over Wade et al. because the operating settings or Wade et al. are not cartridge characteristics. The first set of characteristics referred to by the Examiner is the calibration information (column 6, lines 37-38). The second set of characteristics referred to by the Examiner is actually operating settings, including quadrant slope adjustments, DAC settings, and operating voltage (column 7, lines 65-67 and column 8, lines 45-48). Both the calibration information and the operating settings disclosed in Wade et al. are operation parameters. Wade et al. never teaches writing resistance to a memory chip. The resistances discussed in column 6, lines 28-55 of Wade et al. are not intended to be stored in the memory. The parasitic resistances mentioned in column 8, line 55, are not an electrical resistance of the print cartridge because they are "not detectable in the print cartridge alone during manufacturing" (column 8, lines 55-57). The parasitic resistances are caused by wiring fault, or poor conduction at the print cartridge-printer contacts (column 8, lines 57-59). The parasitic resistance does not get written to the memory chip. It appears that the Examiner may have misunderstood the teachings of Wade et al., resulting in the rejection of Claim 3 based the assumption that Wade et al. disclosed writing electrical resistances into

the memory chip 31. The discussion of cartridge resistances and variations in Wade et al. (column 6, lines 36-42) would not lead to storage of the resistance to the memory chip or any intention of such.

For the reasons set forth above, it is believed that the application is in condition for allowance. Accordingly, reconsideration and favorable action are respectfully requested.

Respectfully submitted,



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Enclosures: Letter to the Draftsperson
Copies of Formal Drawings